## REMARKS

Applicants acknowledge the Office Action mailed on October 2, 2006. Claims 1-3 and 5-18 are currently pending in the present application. Applicants thank the Examiner for the allowance of claim 13. In addition, Applicants thank the Examiner for the acknowledgment that claims 10 through 12 contain allowable subject matter. Applicants request reconsideration of the present application based upon the above amendments and the following remarks.

With this response, Applicants amend dependent claims 8-12 in order to change the dependency of these claims. Specifically, with the above amendments, claims 8-12 now properly depend from independent claim 7 rather than dependent claim 6, which ultimately depends from claim 1. Applicants submit that this set of claims should properly depend from independent claim 7. For example, claim 10 reads, in part: "wherein the step of quenching comprises the step of applying..." Independent claim 1, and all claims depending therefrom including claim 6, does not include any step relating to quenching. Claim 7, however, includes the step of "quenching the coke mass in the container to produce a quenched coke mass..." As claim 10 further defines a quenching step, claim 10 may only properly depend from claim 7, since claim 7 includes the quenching step.

Claims 1-3, 5-9 and 14-18 stand rejected under 35 U.S.C. § 102(e) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious in view of U.S. Patent No. 6,290,494 to Barkdoll. The Examiner also rejects these claims under §§ 102 and 103 based upon the disclosure of U.S. Patent No. 6,059,932 to Sturgulewski. For the reasons explained in detail below, Applicants disagree with the rejections to the claims.

### INDEPENDENT CLAIMS 1 AND 14

In rejecting the claims of the present application, the Examiner states that the references relied upon in making the rejections set forth in the present Office Action

inherently disclose coke having an apparent specific gravity of about 1.05. Applicants remind the Examiner that "[t]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *See* MPEP § 2112. "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (*emphasis in original*). If the process disclosed by the prior art differs from that set forth in the claims, it follows that the prior art does not necessarily disclose all of the limitations set forth in the claims of the application.

**The Barkdoll Reference**

In rejecting the claims based upon the Barkdoll reference, the Examiner first sets forth select limitations recited in claim 1 of the Barkdoll reference. The Examiner then states:

> [t]he steps as taught in Barkdoll fully anticipates [*sic*] applicants method claims of providing a container[. T]he container would be the charging plate in association with the retractable sidewalls in the chamber. The coking oven is a non-recovery type coke oven, which is used in making the coke. Admittedly, the apparent specific gravity has not been specifically taught however, the compaction method taught in Barkdoll imparts the same type of force to the coal, the heating takes place in a coke oven[. I]t would have been obvious if not inherent in the method described in Barkdoll to produce a coke with an apparent specific gravity of about 1.05.

*See* the present Office Action, pages 2-3. Applicants respectfully disagree.

Barkdoll does not teach charging a non-recovery type oven with compacted coal, as set forth in claims 1 and 14 of the present application. Instead, Barkdoll teaches charging the non-recovery oven with a mixture of compacted coal and uncompacted coal. For example, in the summary of the invention Barkdoll explains:

> The method includes the steps of *providing a bed of compacted coal on a first charging plate and a bed of uncompacted coal on a second charging plate...* A portion of the second charging plate is urged into the oven entrance to deposit uncompacted coal adjacent the oven entrance and partially in the oven. The first charging plate is advanced into the oven through the entrance and over the second charging plate to position compacted coal in the oven, whereby portions of the first charging plate and compacted coal contact portions of the uncompacted coal to urge uncompacted coal into the oven ahead of and beneath the first charging plate as the first charging plate is advanced into the oven. The first charging plate is then withdrawn form the oven through the oven entrance and the second charging plate is withdrawn from the oven entrance to yield a *resulting coal bed within the oven comprising a compacted coal bed overlying uncompacted coal.*

*See* Barkdoll, column 3, lines 16-39 (emphasis added).

Barkdoll emphasizes the importance of the uncompacted coal layer in the charging of the oven in Barkdoll. For example, Barkdoll explains: "[t]he uncompacted coal layer 134 is preferably sufficient to insulate the charging plate 28 from the radiant heat of the oven floor 136..." *See* Barkdoll, column 7, lines 16-19. Moreover, Barkdoll also sets forth additional advantages provided by the uncompacted layer. For example,

> [a]nother advantage is that the coal is substantially evenly distributed in the oven without the need for leveling the coal in the oven. Any uneveness of the oven floor will also be compensated for by the loose coal layer. The loose coal layer also reducing [*sic*] sliding friction between the charging plate and oven floor thereby reducing wear on the charging plate and oven floor.

*See* Barkdoll, column 3, lines 47-53. Thus, it is clear that Barkdoll teaches charging the oven with a combination of a compacted coal bed and an uncompacted, or loose coal, layer.

The method taught by Barkdoll differs from that set forth in claims 1 and 14 of the present application. The charging step of Barkdoll includes a charge comprising a compacted coal bed overlying an uncompacted coal layer. Thus, the coal charges recited in the methods set forth in claims 1 and 14 clearly differ from the coal charge taught by Barkdoll. Accordingly, it is not inherent that coke resulting from the Barkdoll process would necessarily have the same specific gravity as coke resulting from the method set forth in claims 1 and 14.

Based upon the above, Applicants believe Barkdoll clearly does not disclose a method of producing coke in a non-recovery type oven in which the resultant coke necessarily has an apparent specific gravity of about 1.05, since Barkdoll fails to disclose at least a charge comprising compacted coal, as set forth in claims 1 and 14. Accordingly, Applicants assert that independent claims 1 and 14 are allowable over the teachings of Barkdoll.

**The Sturgulewski Reference**

In rejecting claims 1-3, 5-9 and 14-18 under 35 U.S.C. § 102(e) based upon the disclosure of Sturgulewski, the Examiner asserts:

> Sturgulewski teach a coal compaction system and method of a non-recovery coke oven which provides improved coal charging and coke discharging. The non-recovery coke oven includes an arch roof, two side walls and floor forming an oven chamber. The coal bed rests on the floor of the chamber... A bed of coal is then inserted into the oven through the charging doors and the surface of the coal bed generates combustible gases due to radiant energy absorbed from the oven door... The coke produced in this system would inherently possess an apparent specific gravity as claimed by applicant absent an evidentiary showing this feature would not be inherent because it has been taught in Sturgulewski that loose coal is compacted and then subjected to a coking oven.

*See* the present Office Action, pages 3-4. Applicants respectfully disagree.

The process set forth by Sturgulewski differs from the process set forth in claims 1 and 14 in numerous ways. For instance, the charging machine in Sturgulewski does not charge the oven with compacted coal. Instead, the oven is charged with coal that is initially uncompacted. The charging machine then compacts the coal *in the oven while the coal is being heated.*

In the method of Sturgulewski, the oven is heated to approximately 2500°F. *See* Sturgulewski, column 3, lines 22-24. Coal is then inserted into the hot oven through charging doors. *Id.* at lines 26-29. In describing Figure 4, Sturgulewski explains: "as coal is discharged from the charging conveyor as it is retracted toward the charging door, the leveling

bar 26 strikes off an even horizontal surface of the coal bed 6..." *Id.* at column 4, lines 9-12. Sturgulewski continues "[t]hereafter, a flat, horizontal surface 25 of the compactor 27 contacts the coal bed in a vertically vibrating motion to compress the bed, e.g. by about 20%, to a reduced thickness corresponding in area to that of the horizontal surface 29 of the compactor 27." *Id.* at lines 17-21.

The compacting of the coal within the oven will greatly affect the apparent specific gravity of the resulting coke. For example, the frequency of the vibrators in compacting the coal will affect the duration that the uncompacted coal is heated in the oven prior to being compacted. Furthermore, the speed at which the charging machine is withdrawn from the oven also affects the speed at which the coal charge is compacted within the oven. Each of these factors, and others, will affect the amount of heat absorbed by the charge prior to compaction and will also affect the resulting coke product, including the apparent specific gravity.

Independent claim 1 sets forth a method including, in part, the steps of applying a force to a volume of loose coal in order to produce a volume of compacted coal and then disposing the volume of compacted coal into a non-recovery heat type oven. Claim 1 does not call for the charging of the oven with loose coal. Moreover, the claim does not call for compacting the coal charge within the hot oven.

Similarly, independent claim 14 sets forth a method including, in part, the steps of applying a force to a volume of loose coal to produce a volume of compacted coal and disposing the volume of compacted coal into a non-recovery heat type oven. Again, the claim does not call for the charging of the oven with loose coal and compacting the coal charge within the hot oven.

The process of compacting the coal within a hot non-recovery oven, as set forth in Sturgulewski, differs from that set forth in claims 1 and 14 of the present application. In Sturgulewski, the uncompacted coal is being heated even as the coal is being compacted

within the hot oven. The methods set forth in claims 1 and 14 include the steps of charging the oven with compacted coal. Due to the differences in the coal charges of Sturgulewski and claims 1 and 14, it does not necessarily follow that the coke resulting from the process of Sturgulewski will have an apparent specific gravity of about 1.05, as set forth in independent claims 1 and 14 of the pending application. Therefore, Applicants assert that claims 1 and 14 are allowable over Sturgulewski.

**INDEPENDENT CLAIM 7**

Independent claim 7 sets forth a method of producing coke. The claimed method includes the steps of "providing a container; moving the coke mass from the oven at a substantially constant elevation to the container; quenching the coke mass in the container to produce a quenched coke mass; and removing the quenched coke mass from the container." In rejecting this claim, the Examiner never explains where Barkdoll and Sturgulewski teach these steps. Moreover, upon review of the references, Applicants have been unable to determine where the references teach these steps. Furthermore, as explained above, the Examiner has acknowledged, with respect to claims 10-12, that the prior art fails to teach at least a quenching step. *See* the present Office Action, page 4 ("The prior art fails to teach and/or suggest the quenching step as claimed by application.") Accordingly, Applicants assert that independent claim 7 is allowable over the prior art, including Barkdoll and Sturgulewski, for at least this reason.

**CONCLUSION**

Applicants have made an earnest attempt to respond fully and completely to the Office Action of October 2, 2006. For the reasons discussed above, Applicants believe that independent claims 1, 7 and 14 are allowable over the cited prior art. In addition, the Examiner has acknowledged that independent claim 13 is allowable over the prior art. Thus, all pending independent claims are allowable over the prior art. Moreover, as all pending

dependent claims depend from the independent claims discussed above, all claims pending in the present application must be allowable over the prior art. Thus, Applicants assert the pending application is in condition for allowance, and accordingly, passage to issuance is respectfully solicited.

If necessary to affect a timely response, please consider this paper a request for an extension of time, and charge any shortages in fees, or apply any overpayment credits, to Baker & Daniels' Deposit Account No. 02-0387 (26041.50057). Please do not include the payment of issue fees.

Respectfully submitted,

Thomas J. Mauch
Reg. No. 56,686
BAKER & DANIELS LLP
205 West Jefferson Boulevard, Suite 250
South Bend, IN 46601
Telephone: (574) 234-4149
Fax: (574) 239-1900